**Lesson Title: Protein Synthesis**

**Unit: 4**

TEKS: 130.7 (c) 7. a,c,d.

OBJECTIVES

The student shall be able to:

1. Identify and compare DNA and RNA.
2. Explain the three types of RNA.
3. Demonstrate understanding using codon and anticodon sequences.

TEACHING MATERIALS, TOOLS, AND EQUIPMENT

PPT: Protein Synthesis

HO: DNA Decoder Wheel & Drag and Drop activity

TEACHING PROCEDURE

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| Interest Approach/Anticipatory Set | Teacher Notes |
| 1. Link – Previous lesson over history of genetics  2. Motivation – Show video of Protein Synthesis which is found on the first slide of the ppt. | Review key points of history of genetics  Ask questions to students |

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| Teaching Plan and Strategy / Presentation of New Material | Teacher Notes |
| Objective 1. Identify and compare DNA and RNA  Proteins are the building blocks of life. In order for any living thing wether it be human, or animal, it must have proteins and they must replicate and create more proteins. Inside of these proteins are DNA. DNA is the master plan of the cell, RNA is the blue print of the master cell.  Objective 2. Explain the three types of RNA.  Messenger RNA (mRNA) - copies DNA’s code & carries the genetic information to the ribosomes  Ribosomal RNA (rRNA) - along with protein, makes up the ribosomes  Transfer RNA (tRNA) - transfers amino acids to the ribosomes where proteins are synthesized  Objective 3. Demonstrate understanding using codon and anticodon sequences.   * A codon designates an amino acid * An amino acid may have more than one codon * There are 20 amino acids, but 64 possible codons * Some codons tell the ribosome to *stop* translating   See Engagement | Power point over Protein Synthesis  Codon Decoder Wheel  Drag and Drop Activity |

ENGAGEMENT

Have students use the codon decoder wheel and also the drag and drop activity.

Codon Decoder Wheel:

This activity is relatively quick for students to accomplish. The teacher should plan ahead of time to come up with different amino acids the students need to find.

After the codon Decoder Wheel activity is finished, the student should then complete the drag and drop activity.

EVALUATION

Bring the lesson to a close and review important concepts. Use last five minutes for oral Q&A.

ADDITIONAL MATERIALS

Additional material is provided in power point.

College & Career Readiness Standards: II.C.1; II.E.7 (Write in the number/letters already crosswalked for your unit)

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